

**Flood Control Project Maintenance
Levee Inspections**
LMA District Cover Sheet
Spring 2018 Levee Inspection Results

Reclamation District No. 1660 Tisdale

	Spring (March - May)	Summer ** (June - August)	Fall (September - November)	Winter ** (December - February)
† Overall LMA Rating (Fall Only)				

** Non-receipt of Summer or Winter Inspection
Reports may effect overall annual rating.

† SPRING INSPECTIONS: Overall maintenance ratings are not determined for the spring inspection results. Individual maintenance deficiencies are rated using the same criteria in the spring and in the fall.

FALL INSPECTIONS: The overall maintenance rating shown above is based on operation and maintenance deficiencies identified within the attached unit inspection reports. This rating is not intended to be an indication of risk.

Comments

**Flood Control Project Maintenance
Levee Inspections**

Unit Cover Sheet

Spring 2018 Levee Inspection Results

Reclamation District No. 1660 Tisdale

Waterway			Bank	Unit Miles
Unit No. 01 Sacramento River			Left	2.94
	Spring (March - May)	Summer (June - August)	(September - November) Fall	Winter (December - February)
Unit Maintenance Rating (Fall Only)				
Date of Inspection	3/15/2018 - 3/15/2018			
DWR Inspector	Bob Duffey			
Accompanied By	Andy Duffey RD 1660			

Summer & Winter Inspections

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- a) completion of the inspection
- b) any changes other than the results of normal maintenance
- c) corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

<http://cdec.water.ca.gov/lma.html>

If the LMA is unable to submit information on this webpage, please contact DWR for assistance.

The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/15/2018 03/15/2018	Bob Duffey

LM Start		Rating **	A	Issue No.	14
LM End		Issue Type +	Ma	Location *	
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Operations & Maintenance Manuals			°	°
				°	°
DWR ID	DWR_RD1660_01_s _ 2013_14				
Comment Code					
Inspector Comment					
The LMA has the O&M manuals.					

No Photos

LM Start		Rating **	A	Issue No.	15
LM End		Issue Type +	Ma	Location *	
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Emergency Supplies & Equipment			°	°
				°	°
DWR ID	DWR_RD1660_01_s _ 2013_15				
Comment Code					
Inspector Comment					
The LMA has adequate emergency supplies and equipment.					

No Photos

LM Start		Rating **	A	Issue No.	16
LM End		Issue Type +	Ma	Location *	
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Flood Preparedness & Training			°	°
				°	°
DWR ID	DWR_RD1660_01_s _ 2013_16				
Comment Code					
Inspector Comment					
The LMA has completed flood fight training in 2014.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/15/2018 03/15/2018	Bob Duffey

LM Start	0.02	Rating **	M	Issue No.	17
LM End	0.06	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.063086 °	39.062462 °
				-121.837854 °	-121.837896 °
DWR ID	DWR_RD1660_01_s_2016_17				
Comment Code					
FE : Fence					
Inspector Comment					
4 foot high chain link					

No Photos

LM Start	0.05	Rating **	M	Issue No.	12
LM End	0.05	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.062643 °	39.062643 °
				-121.837857 °	-121.837857 °
DWR ID	DWR_RD1660_01_s_2012_12				
Comment Code					
BU : Building					
Inspector Comment					

Photo 1 of 1 : SP_2018_RD1660_8_12_20180305_00006.jpg



View of the building and fence at the landside toe.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/15/2018 03/15/2018	Bob Duffey

LM Start	0.14	Rating **	M	Issue No.	21	
LM End	0.14	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	DWR UCIP LMA Responsibility			39.061322 °		39.061322 °
				-121.837993 °		-121.837993 °
DWR ID						
Comment Code						
Inspector Comment						
FS_ID:46670 DS_ID:22489 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - needs proper abandonment.- opening of landside pipe almost buried. FIELD_STRUCT_DESC: *ABANDONED* 24-inch corrugated metal gravity drainage pipe through the levee, 16.4 feet below the crown. Two corrugated metal cutoff walls. Slide gate in a concrete well at the waterside (WS) toe. (IV A-Winship). USACE bench mark on the top of the headwall at the landside (LS) toe. [Additional Reference(s): DWR Levee Log, 2005. USACE Sacramento O&M Manual 133, August 1955, (Station 2+07.8)]. FS Date: 10/10/2013						

LM Start	0.14	Rating **	M	Issue No.	21 (cont)
LM End	0.14	Issue Type +	Ma	Location *	

Photo 1 of 3 : UCIP_SP_2018_46670_38107.jpg



WS view: concrete box on levee slope. No pipe found on berm and river bank.

Photo 2 of 3 : UCIP_SP_2018_46670_38106.jpg



WS view: two slide gates in concrete box on levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/15/2018 03/15/2018	Bob Duffey

LM Start	0.14	Rating **	M	Issue No.	21 (cont)	
LM End	0.14	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	DWR UCIP LMA Responsibility			39.061322 °		39.061322 °
				-121.837993 °		-121.837993 °
DWR ID						
Comment Code						
Inspector Comment						
FS_ID:46670 DS_ID:22489 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - needs proper abandonment.- opening of landside pipe almost buried. FIELD_STRUCT_DESC: *ABANDONED* 24-inch corrugated metal gravity drainage pipe through the levee, 16.4 feet below the crown. Two corrugated metal cutoff walls. Slide gate in a concrete well at the waterside (WS) toe. (IV A-Winship). USACE bench mark on the top of the headwall at the landside (LS) toe. [Additional Reference(s): DWR Levee Log, 2005. USACE Sacramento O&M Manual 133, August 1955, (Station 2+07.8)]. FS Date: 10/10/2013						

Photo 3 of 3 : UCIP_SP_2018_46670_38105.jpg



WS view: closer view of two slide gates in concrete box on levee slope.

LM Start	0.59	Rating **	A	Issue No.	19
LM End	0.59	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			39.054918 °	39.054918 °
				-121.839208 °	-121.839208 °
DWR ID	DWR_RD1660_01_s_2018_19				
Comment Code					
V1 : Control annual grass and weeds on the levee slopes and easements.					
Inspector Comment					
Native grasses on both slopes are adequately maintained.					

Photo 1 of 1 : SP_2018_RD1660_8_19_20180402_00017.jpg



View of the native grasses on both slopes.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/15/2018 03/15/2018	Bob Duffey

LM Start	1.10	Rating **	M	Issue No.	9
LM End	1.45	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.047610 °	39.043221 °
				-121.838802 °	-121.835815 °
DWR ID	DWR_RD1660_01_s_2012_9				
Comment Code					
DT : Ditch					
Inspector Comment					

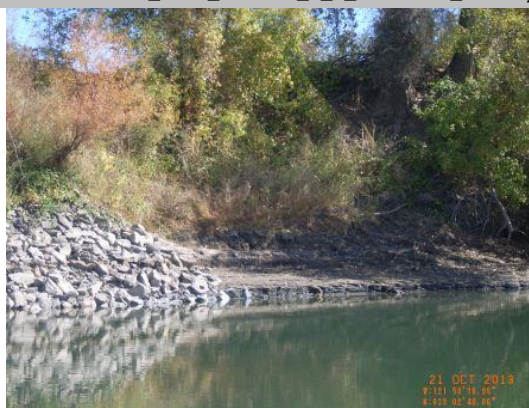
Photo 1 of 1 : SP_2018_RD1660_8_9_20180305_00005.jpg



View of a ditch along the landside toe.

LM Start	1.33	Rating **	M	Issue No.	8
LM End	1.36	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2015 USACE Erosion Survey, DRAFT			39.044361 °	39.043916 °
				-121.837654 °	-121.837305 °
DWR ID	DWR_RD1660_01_s_2016_8				
Comment Code					
Inspector Comment					
2009 - Erosion on levee toe where an old cobble site is failing. 2011 - Some new minor erosion. 2012 - Site extended downstream, bank is being impacted from the weight of the trees. 2013 - Minor new erosion at the toe. 2015: Minor new erosion at the toe. [2015 Site ID: SAC_120-6_L]					

Photo 1 of 1 : SP_2018_RD1660_8_8_20180305_00004.jpg



USACE 2013 Photo #1

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/15/2018 03/15/2018	Bob Duffey

LM Start	1.53	Rating **	M	Issue No.	22	
LM End	1.53	Issue Type +	En	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP Field Study			39.042304 °	39.042304 °	
				-121.834783 °	-121.834783 °	
DWR ID						
Comment Code						
Inspector Comment						
FS_ID:22543						
DS_ID:22484						
EP_NO: 16476						
Repair Type: Non-Urgent						
Crossing Status: Found						
UCIP Comments: - 16-inch old steel pipe abandoned. Abandoned pipe found on landside levee toe.- abandoned power pole on waterside.- mobile diesel pump on channel bank.- attached tin pipes exposed on levee surface.						
FIELD_STRUCT_DESC: 14-inch steel irrigation discharge pipe through the levee crown, at an unknown depth. Two 12-inch tin pipes on the surface of the levee slopes, attached to the existing 14-inch steel pipe. Pipe discharges into an irrigation ditch on the landside (LS). Air vent on the LS shoulder. (Plans to grout a 25-foot section of pipeline through the levee authorized under Permit No. 16476, 1995 - Reclamation District No. 1660 [RD1660]).						
FS Date: 10/10/2013						

LM Start	1.53	Rating **	M	Issue No.	22 (cont)
LM End	1.53	Issue Type +	En	Location *	

Photo 1 of 3 : UCIP_SP_2018_22543_38142.jpg



WS view: two exposed 12" tin pipes on levee slope. These pipes connected to the pump on river bank.

Photo 2 of 3 : UCIP_SP_2018_22543_38141.jpg



WS view: two exposed 12" tin pipes on levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
		N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain			

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/15/2018 03/15/2018	Bob Duffey

LM Start	1.53	Rating **	M	Issue No.	22 (cont)	
LM End	1.53	Issue Type +	En	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	DWR UCIP Field Study			39.042304 °		39.042304 °
				-121.834783 °		-121.834783 °
DWR ID						
Comment Code						
Inspector Comment						
FS_ID:22543 DS_ID:22484 EP_NO: 16476 Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - 16-inch old steel pipe abandoned. Abandoned pipe found on landside levee toe.- abandoned power pole on waterside.- mobile diesel pump on channel bank.- attached tin pipes exposed on levee surface. FIELD_STRUCT_DESC: 14-inch steel irrigation discharge pipe through the levee crown, at an unknown depth. Two 12-inch tin pipes on the surface of the levee slopes, attached to the existing 14-inch steel pipe. Pipe discharges into an irrigation ditch on the landside (LS). Air vent on the LS shoulder. (Plans to grout a 25-foot section of pipeline through the levee authorized under Permit No. 16476, 1995 - Reclamation District No. 1660 [RD1660]). FS Date: 10/10/2013						

Photo 3 of 3 : UCIP_SP_2018_22543_38140.jpg



WS view: two exposed tin pipes joined together and connected to 14-inch steel pipe on levee slope.

LM Start	2.01	Rating **	U	Issue No.	1
LM End	2.34	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.037640 °	39.034416 °
				-121.828421 °	-121.825698 °
DWR ID	DWR_RD1660_01_s_2012_1				
Comment Code					
DT : Ditch					
Inspector Comment					

Photo 1 of 1 : SP_2018_RD1660_8_1_20180305_00001.jpg



View of a large ditch along the landside toe.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable		N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/15/2018 03/15/2018	Bob Duffey

LM Start	2.37	Rating **	M	Issue No.	2
LM End	2.37	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Slope Stability			39.034107 °	39.034107 °
				-121.825152 °	-121.825152 °
DWR ID	DWR_RD1660_01_s_2012_2				
Comment Code					
S1 : Repair slope instability.					
Inspector Comment					

Photo 1 of 1 : SP_2018_RD1660_8_2_20180305_00002.jpg



View of the toe cut by the farmer on the landside.

LM Start	2.39	Rating **	M	Issue No.	4
LM End	2.39	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Slope Stability			39.033858 °	39.033858 °
				-121.824985 °	-121.824985 °
DWR ID	DWR_RD1660_01_s_2012_4				
Comment Code					
S1 : Repair slope instability.					
Inspector Comment					

No Photos

LM Start	2.57	Rating **	M	Issue No.	20
LM End	2.57	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			39.031625 °	39.031625 °
				-121.823492 °	-121.823492 °
DWR ID	DWR_RD1660_01_s_2018_20				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					
Repair the rodent holes along the landside slope.					

Photo 1 of 1 : SP_2018_RD1660_8_20_20180402_00018.jpg



View of the rodent holes along the landside slope.

* Location		** Rating		+ Issue Type	
LS : Land Side	N/A : Not Applicable	A : Acceptable	N : Not Inspected/Rated	Ma : Maintenance Deficiency	
WS : Water Side		M : Minimally Acceptable	C : Corrected	Ob : Design & System Obsolescence	
CR : Crown		U : Unacceptable	A/W : Acceptable but Monitor & Maintain	En : Enforcement	

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/15/2018 03/15/2018	Bob Duffey

LM Start	2.58	Rating **	M	Issue No.	3
LM End	2.58	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.031405 °	39.031405 °
				-121.823403 °	-121.823403 °
DWR ID	DWR_RD1660_01_s_2012_3				
Comment Code					
EQ : Equipment					
Inspector Comment					

Photo 1 of 1 : SP_2018_RD1660_8_3_20180305_00003.jpg



View of equipment along the landside slope.

LM Start	2.61	Rating **	M	Issue No.	18
LM End	2.61	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.031020 °	39.031020 °
				-121.823091 °	-121.823091 °
DWR ID	DWR_RD1660_01_f_2016_18				
Comment Code					
DE : Debris					
Inspector Comment					
Remove concrete pipes from the landside toe.					

Photo 1 of 1 : SP_2018_RD1660_8_18_20180305_00007.jpg



View of the concrete pipes within the levee easement.

* Location
LS : Land Side N/A : Not Applicable
WS : Water Side
CR : Crown

** Rating
A : Acceptable
M : Minimally Acceptable
U : Unacceptable
N : Not Inspected/Rated
C : Corrected
A/W : Acceptable but Monitor & Maintain

+ Issue Type
Ma : Maintenance Deficiency
Ob : Design & System Obsolescence
En : Enforcement

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/15/2018 03/15/2018	Bob Duffey

LM Start	2.62	Rating **	M	Issue No.	23
LM End	2.62	Issue Type +	En	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			39.030935 °	39.030935 °
				-121.823022 °	-121.823022 °
DWR ID					
Comment Code					
Inspector Comment					
FS_ID:22632 DS_ID:22492 EP_NO: 10012 Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - abandoned pumphouse on landside toe. Needs confirmation from LMA or DWR Inspector about abandonment of pumphouse.- headwall on channel bank. FIELD_STRUCT_DESC: 24-inch steel irrigation discharge pipe through the levee, 24 feet below the crown. Slide gate on the waterside (WS) shoulder. Abandoned pump house on the landside (LS) slope. (Retention of a 24-inch steel pipe through the levee, 24 feet below the crown, slide gate, and pump house authorized under Automatic Board Order (ABO) issued as Permit No. 10012, 1974 - Lawrence C. Harris). [Additional Reference(s): DWR Levee Log, 2005]. FS Date: 10/10/2013					

WS view: gate valve handle (center) on levee slope.

LM Start	2.62	Rating **	M	Issue No.	23 (cont)
LM End	2.62	Issue Type +	En	Location *	

WS view: inlet steel pipe (right) immersed into channel water.

* Location	** Rating	+ Issue Type
LS : Land Side N/A : Not Applicable	A : Acceptable N : Not Inspected/Rated	Ma : Maintenance Deficiency
WS : Water Side	M : Minimally Acceptable C : Corrected	Ob : Design & System Obsolescence
CR : Crown	U : Unacceptable AWW : Acceptable but Monitor & Maintain	En : Enforcement

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/15/2018 03/15/2018	Bob Duffey

LM Start	2.62	Rating **	M	Issue No.	23 (cont)	
LM End	2.62	Issue Type +	En	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP Field Study			39.030935 °	39.030935 °	
				-121.823022 °	-121.823022 °	
DWR ID						
Comment Code						
Inspector Comment						
FS_ID:22632						
DS_ID:22492						
EP_NO: 10012						
Repair Type: Non-Urgent						
Crossing Status: Found						
UCIP Comments: - abandoned pumphouse on landside toe. Needs confirmation from LMA or DWR Inspector about abandonment of pumphouse.- headwall on channel bank.						
FIELD_STRUCT_DESC: 24-inch steel irrigation discharge pipe through the levee, 24 feet below the crown. Slide gate on the waterside (WS) shoulder. Abandoned pump house on the landside (LS) slope.						
(Retention of a 24-inch steel pipe through the levee, 24 feet below the crown, slide gate, and pump house authorized under Automatic Board Order (ABO) issued as Permit No. 10012, 1974 - Lawrence C. Harris).						
[Additional Reference(s): DWR Levee Log, 2005].						
FS Date: 10/10/2013						

Photo 3 of 3 : UCIP_SP_2018_22632_38176.jpg



WS view: closer view of inlet steel pipe immersed into channel water.
Pipe was supported by concrete headwall.

LM Start	2.63	Rating **	M	Issue No.	5
LM End	2.66	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Slope Stability			39.030891 °	39.030436 °
				-121.822956 °	-121.822617 °
DWR ID	DWR_RD1660_01_s_2012_5				
Comment Code					
S1 : Repair slope instability.					
Inspector Comment					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable		N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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**Flood Control Project Maintenance
Levee Inspections**

Unit Cover Sheet

Spring 2018 Levee Inspection Results

Reclamation District No. 1660 Tisdale

Waterway			Bank	Unit Miles
Unit No. 02 Sutter Bypass			Right	9.10
	Spring (March - May)	Summer (June - August)	(September - November) Fall	Winter (December - February)
Unit Maintenance Rating (Fall Only)				
Date of Inspection	3/15/2018 - 3/15/2018			
DWR Inspector	Bob Duffey			
Accompanied By	Andy Duffey RD 1660			

Summer & Winter Inspections

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- a) completion of the inspection
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The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.

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Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/15/2018 03/15/2018	Bob Duffey

LM Start	0.00	Rating **	M	Issue No.	6
LM End	0.00	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Slope Stability			39.032910 °	39.032910 °
				-121.743665 °	-121.743665 °
DWR ID	DWR_RD1660_02_f_2016_6				
Comment Code					
S1 : Repair slope instability.					
Inspector Comment					

Photo 1 of 2 : SP_2018_RD1660_9_6_20180305_00001.jpg



View of the slope instability looking from the landside toe.

LM Start	0.00	Rating **	M	Issue No.	6 (cont)
LM End	0.00	Issue Type +	Ma	Location *	LS

Photo 2 of 2 : SP_2018_RD1660_9_6_20180305_00002.jpg



Another view of the slope instability looking from the levee crown.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/15/2018 03/15/2018	Bob Duffey

LM Start	0.02	Rating **	A/W	Issue No.	27
LM End	0.02	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP LMA Responsibility			39.033214 °	39.033214 °
				-121.743541 °	-121.743541 °
DWR ID					
Comment Code					
Inspector Comment					
FS_ID:22663 DS_ID:22495 EP_NO: 10020 Repair Type: No Action Needed Crossing Status: Found UCIP Comments: - pipe/opening not visible as it was submerged into water on both sides.- it seems that 36-inch concrete pipe through the levee. It needs confirmation from LMA/DWR Inspector.- USED bench mark on landside concrete vault. FIELD_STRUCT_DESC: [Reclamation District No. 1660 (RD1660) Drainage Pump] 48-inch by 84-inch reinforced concrete outfall structure through the levee, 34 feet below the crown. Slide gate in a 4-foot by 8-foot concrete riser on the waterside (WS) slope. (Retention of a 4-foot by 7-foot concrete culvert outfall drain through the levee, 34 feet below the crown, and a slide gate in a concrete well authorized under Automatic Board Order (ABO) issued as Permit No. 10020, 1974 - Leo Bandoni, care of John Digardi). [Additional Reference(s): DWR Levee Log, 2005. USACE Sacramento O&M Manual 133, August 1955, (Station 1044+60), two 4-foot by 7-foot concrete tunnels referenced]. FS Date: 10/10/2013					

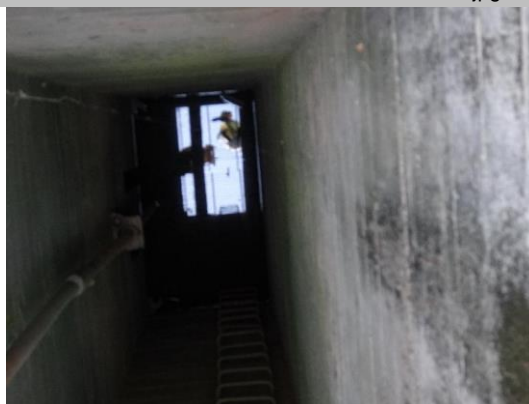
LM Start	0.02	Rating **	A/W	Issue No.	27 (cont)
LM End	0.02	Issue Type +	Ma	Location *	

Photo 1 of 3 : UCIP_SP_2018_22663_38248.jpg



WS view: 4 ft. by 8 ft. concrete box with slide gate on levee slope. USED bench mark on top of the box.

Photo 2 of 3 : UCIP_SP_2018_22663_38247.jpg



WS view: inside view of concrete box on levee slope. Slide gate in concrete box.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/15/2018 03/15/2018	Bob Duffey

LM Start	2.82	Rating **	C	Issue No.	18
LM End	2.82	Issue Type +	En	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.071853 °	39.071853 °
				-121.759655 °	-121.759655 °
DWR ID	DWR_RD1660_02_s_2017_18				
Comment Code					
DE : Debris					
Inspector Comment					
The debris was removed from the waterside toe next to the bridge.					

No Photos

LM Start	5.10	Rating **	M	Issue No.	28
LM End	5.10	Issue Type +	En	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			39.102512 °	39.102512 °
				-121.774960 °	-121.774960 °
DWR ID					
Comment Code					
Inspector Comment					
FS_ID:22705 DS_ID:22499 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: Pressure relief valve on landside levee slope.Pump platform under construction for upgrade (raising platform)Look for new upgrade/revision permit. FIELD_STRUCT_DESC: 18-inch steel irrigation discharge pipe through the levee, 5.8 feet below the crown. Pump in the channel. Gate valve on the landside (LS) berm. Pipe discharges into a 4-foot by 4-foot concrete box on the LS berm. 2-inch electrical conduit of an unknown material through the levee, 3 feet below the crown. (Plans for construction of a pumping plant with an 18-inch discharge pipe through the levee authorized under Permit No. 4215, 1963 - S. A. McKeehan). [Additional Reference(s): DWR Levee Log, 2005]. FS Date: 10/15/2013					

Photo 1 of 3 : UCIP_SP_2018_22705_38394.jpg



WS view: pump platform under construction.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/15/2018 03/15/2018	Bob Duffey

LM Start	5.10	Rating **	M	Issue No.	28 (cont)	
LM End	5.10	Issue Type +	En	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP Field Study			39.102512 °	39.102512 °	
				-121.774960 °	-121.774960 °	
DWR ID						
Comment Code						
Inspector Comment						
FS_ID:22705 DS_ID:22499 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: Pressure relief valve on landside levee slope.Pump platform under construction for upgrade (raising platform)Look for new upgrade/revision permit. FIELD_STRUCT_DESC: 18-inch steel irrigation discharge pipe through the levee, 5.8 feet below the crown. Pump in the channel. Gate valve on the landside (LS) berm. Pipe discharges into a 4-foot by 4-foot concrete box on the LS berm. 2-inch electrical conduit of an unknown material through the levee, 3 feet below the crown. (Plans for construction of a pumping plant with an 18-inch discharge pipe through the levee authorized under Permit No. 4215, 1963 - S. A. McKeenan). [Additional Reference(s): DWR Levee Log, 2005]. FS Date: 10/15/2013						

LM Start	5.10	Rating **	M	Issue No.	28 (cont)
LM End	5.10	Issue Type +	En	Location *	

Photo 2 of 3 : UCIP_SP_2018_22705_38393.jpg



WS view: pump platform under construction. 18" steel pipe and 2" electric conduit under steel platform.

Photo 3 of 3 : UCIP_SP_2018_22705_38392.jpg



LS view: pressure relief valve on levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/15/2018 03/15/2018	Bob Duffey

LM Start	5.12	Rating **	A/W	Issue No.	9	
LM End	5.12	Issue Type +	Ob	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	2017 Storm Damage			39.102537 °	39.102537 °	
				-121.775390 °	-121.775390 °	
DWR ID	DWR_RD1660_02_f_2017_9					
Comment Code						
Inspector Comment						
Levee Evaluation Comments						
Description:						
Site ID No:157						
Site Designation:RD 1660-01						
Repair Type: Seepage (B)						
Rating:Area of Concern						
Field Date:8/3/2017						
Notes: small bulges, levee prone to seepage						

LM Start	5.12	Rating **	A/W	Issue No.	9 (cont)
LM End	5.12	Issue Type +	Ob	Location *	

Photo 1 of 3 : LEVAL_SP_2018_157_4039.jpg



Photo 2 of 3 : LEVAL_SP_2018_157_4040.jpg



* Location		** Rating		+ Issue Type	
LS : Land Side	N/A : Not Applicable	A : Acceptable	N : Not Inspected/Rated	Ma : Maintenance Deficiency	
WS : Water Side		M : Minimally Acceptable	C : Corrected	Ob : Design & System Obsolescence	
CR : Crown		U : Unacceptable	A/W : Acceptable but Monitor & Maintain	En : Enforcement	

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/15/2018 03/15/2018	Bob Duffey

LM Start	5.12	Rating **	A/W	Issue No.	9 (cont)	
LM End	5.12	Issue Type +	Ob	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	2017 Storm Damage			39.102537 °	39.102537 °	
				-121.775390 °	-121.775390 °	
DWR ID	DWR_RD1660_02_f_2017_9					
Comment Code						
Inspector Comment						
Levee Evaluation Comments						
Description:						
Site ID No:157						
Site Designation:RD 1660-01						
Repair Type: Seepage (B)						
Rating:Area of Concern						
Field Date:8/3/2017						
Notes: small bulges, levee prone to seepage						

Photo 3 of 3 : LEVAL_SP_2018_157_4042.jpg



LM Start	5.66	Rating **	A/W	Issue No.	21	
LM End		Issue Type +	Ob	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	2017 Storm Damage			39.108209 °		°
				-121.782280 °		°
DWR ID	DWR_RD1660_02_f_2017_21					
Comment Code						
Inspector Comment						
Levee Evaluation Comments						
Description:						
Site ID No:173						
Site Designation:248-17						
Repair Type: Seepage						
Rating:						
Field Date:						
Notes:						

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/15/2018 03/15/2018	Bob Duffey

LM Start	6.48	Rating **	C	Issue No.	25
LM End	6.48	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.115145 °	39.115145 °
				-121.794773 °	-121.794773 °
DWR ID	DWR_RD1660_02_f_2017_25				
Comment Code					
DE : Debris					
Inspector Comment					
The debris was removed from the waterside toe.					

No Photos

LM Start	6.51	Rating **	M	Issue No.	7
LM End	6.51	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.115398 °	39.115398 °
				-121.795265 °	-121.795265 °
DWR ID	DWR_RD1660_02_s_2018_7				
Comment Code					
TR : Tree or limb					
Inspector Comment					
Remove the tree from the waterside toe.					

Photo 1 of 1 : SP_2018_RD1660_9_7_20180402_00024.jpg



View of the tree along the waterside toe.

LM Start	7.64	Rating **	C	Issue No.	26
LM End	7.64	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.124898 °	39.124898 °
				-121.812348 °	-121.812348 °
DWR ID	DWR_RD1660_02_f_2017_26				
Comment Code					
DE : Debris					
Inspector Comment					
Tree limbs was removed from the waterside toe.					

No Photos

* Location		** Rating		+ Issue Type	
LS : Land Side	N/A : Not Applicable	A : Acceptable	N : Not Inspected/Rated	Ma : Maintenance Deficiency	
WS : Water Side		M : Minimally Acceptable	C : Corrected	Ob : Design & System Obsolescence	
CR : Crown		U : Unacceptable	A/W : Acceptable but Monitor & Maintain	En : Enforcement	

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/15/2018 03/15/2018	Bob Duffey

LM Start	8.03	Rating **	C	Issue No.	17
LM End	8.03	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.128130 °	39.128130 °
				-121.818210 °	-121.818210 °
DWR ID	DWR_RD1660_02_s_2017_17				
Comment Code					
TR : Tree or limb					
Inspector Comment					
The tree limbs was removed from the waterside toe.					

No Photos

LM Start	8.04	Rating **	A	Issue No.	8
LM End	8.04	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			39.128257 °	39.128257 °
				-121.818465 °	-121.818465 °
DWR ID	DWR_RD1660_02_s_2018_8				
Comment Code					
V1 : Control annual grass and weeds on the levee slopes and easements.					
Inspector Comment					
Native grasses on both slopes should continue to be managed.					

Photo 1 of 1 : SP_2018_RD1660_9_8_20180402_00026.jpg



View of the native grasses on both slopes.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/15/2018 03/15/2018	Bob Duffey

LM Start	9.07	Rating **	A/W	Issue No.	29	
LM End	9.07	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	DWR UCIP LMA Responsibility			39.136861 °		39.136861 °
				-121.833974 °		-121.833974 °
DWR ID						
Comment Code						
Inspector Comment						
FS_ID:22708						
DS_ID:22505						
EP_NO: N/A						
Repair Type: No Action Needed						
Crossing Status: Found						
UCIP Comments: - inlet structure 160 ft off the levee center on landside drainage ditch.						
FIELD_STRUCT_DESC: 48-inch steel gravity drainage pipe through the levee, 29 feet below the crown. Slide gate and concrete bulkhead on the riverbank. Staff gage on the waterside (WS) berm. (Retention of a 48-inch corrugated metal pipe (CMP) through the levee, 29 feet below the crown, a slide gate, and a concrete bulkhead authorized under Automatic Board Order (ABO) No. 10021, 1974 - Butte Slough Irrigation Company, care of Tarke Warehouse). [Additional Reference(s): DWR Levee Log, 2005. USACE Sacramento O&M Manual 133, August 1955, (Station 433+43), 48-inch CMP referenced].						
FS Date: 10/15/2013						

LM Start	9.07	Rating **	A/W	Issue No.	29 (cont)
LM End	9.07	Issue Type +	Ma	Location *	

Photo 1 of 3 : UCIP_SP_2018_22708_38406.jpg



WS view: overview of concrete box on channel bank. It looks like a fish ladder. Pipe discharges into this box.

Photo 2 of 3 : UCIP_SP_2018_22708_38405.jpg



WS view: concrete box on channel bank. Pipe end with slide gate. Pipe discharges into this box.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

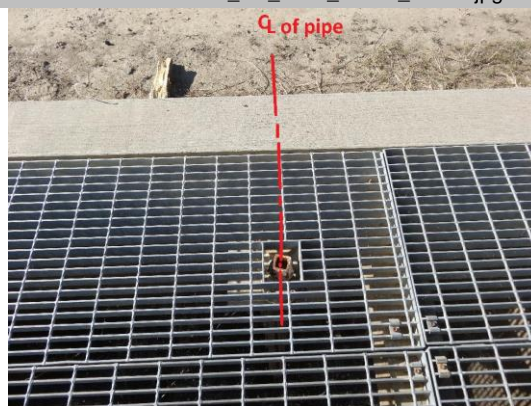
Levee Inspection Report By Mile - Spring 2018

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/15/2018 03/15/2018	Bob Duffey

LM Start	9.07	Rating **	A/W	Issue No.	29 (cont)	
LM End	9.07	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	DWR UCIP LMA Responsibility			39.136861 °		39.136861 °
				-121.833974 °		-121.833974 °
DWR ID						
Comment Code						
Inspector Comment						
FS_ID:22708						
DS_ID:22505						
EP_NO: N/A						
Repair Type: No Action Needed						
Crossing Status: Found						
UCIP Comments: - inlet structure 160 ft off the levee center on landside drainage ditch.						
FIELD_STRUCT_DESC: 48-inch steel gravity drainage pipe through the levee, 29 feet below the crown. Slide gate and concrete bulkhead on the riverbank. Staff gage on the waterside (WS) berm. (Retention of a 48-inch corrugated metal pipe (CMP) through the levee, 29 feet below the crown, a slide gate, and a concrete bulkhead authorized under Automatic Board Order (ABO) No. 10021, 1974 - Butte Slough Irrigation Company, care of Tarke Warehouse). [Additional Reference(s): DWR Levee Log, 2005. USACE Sacramento O&M Manual 133, August 1955, (Station 433+43), 48-inch CMP referenced].						
FS Date: 10/15/2013						

Photo 3 of 3 : UCIP_SP_2018_22708_38409.jpg



WS view: concrete box on channel bank. Pipe discharges into this box.
A slide gate inside this box.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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